

Untitled.ST25  
SEQUENCE LISTING

<110> Auckland UniServices Limited  
Langley, Ries  
Fraser, John

<120> SET1 Proteins and Uses Therefor

<130> SHR504430/142

<150> AU2004901570

<151> 2004-03-24

<160> 13

<170> PatentIn version 3.1

<210> 1

<211> 231

<212> PRT

<213> Staphylococcus aureus subsp. NCTC8325

<400> 1

Met Lys Leu Lys Thr Leu Ala Lys Ala Thr Leu Ala Leu Gly Leu Leu  
1 5 10 15

Thr Thr Gly Val Ile Thr Ser Glu Gly Gln Ala Val Gln Ala Ala Glu  
20 25 30

Lys Gln Glu Arg Val Gln His Leu His Asp Ile Arg Asp Leu His Arg  
35 40 45

Tyr Tyr Ser Ser Glu Ser Phe Glu Tyr Ser Asn Val Ser Gly Lys Val  
50 55 60

Glu Asn Tyr Asn Gly Ser Asn Val Val Arg Phe Asn Pro Lys Asp Gln  
65 70 75 80

Asn His Gln Leu Phe Leu Leu Gly Lys Asp Lys Glu Gln Tyr Lys Glu  
85 90 95

## Untitled.ST25

Gly Leu Gln Gly Gln Asn Val Phe Val Val Gln Glu Leu Ile Asp Pro  
 100 105 110

Asn Gly Arg Leu Ser Thr Val Gly Gly Val Thr Lys Lys Asn Asn Lys  
 115 120 125

Thr Ser Glu Thr Asn Thr Pro Leu Phe Val Asn Lys Val Asn Gly Glu  
 130 135 140

Asp Leu Asp Ala Ser Ile Asp Ser Phe Leu Ile Gln Lys Glu Glu Ile  
 145 150 155 160

Ser Leu Lys Glu Leu Asp Phe Lys Ile Arg Gln Gln Leu Val Asn Asn  
 165 170 175

Tyr Gly Leu Tyr Lys Gly Thr Ser Lys Tyr Gly Lys Ile Ile Ile Asn  
 180 185 190

Leu Lys Asp Glu Asn Lys Val Glu Ile Asp Leu Gly Asp Lys Leu Gln  
 195 200 205

Phe Glu Arg Met Gly Asp Val Leu Asn Ser Lys Asp Ile Arg Gly Ile  
 210 215 220

Ser Val Thr Ile Asn Gln Ile  
 225 230

<210> 2

<211> 231

<212> PRT

<213> staphylococcus aureus

<400> 2

Met Lys Leu Lys Thr Leu Ala Lys Ala Thr Leu Ala Leu Gly Leu Leu  
 1 5 10 15

Thr Thr Gly Val Ile Thr Ser Glu Gly Gln Ala Val Gln Ala Ala Glu  
 20 25 30

Lys Gln Glu Arg Val Gln His Leu His Asp Ile Arg Asp Leu His Arg  
 35 40 45

Tyr Tyr Ser Ser Glu Ser Phe Glu Tyr Ser Asn Val Ser Gly Lys Val  
 50 55 60

Glu Asn Tyr Asn Gly Ser Asn Val Val Arg Phe Asn Pro Lys Asp Gln  
 65 70 75 80

## Untitled.ST25

Asn His Gln Leu Phe<sub>85</sub> Leu Leu Gly Lys<sub>90</sub> Asp Lys Glu Gln Tyr Lys<sub>95</sub> Glu  
 Gly Leu Gln Gly<sub>100</sub> Gln Asn Val Phe<sub>105</sub> Val Gln Glu Leu Ile<sub>110</sub> Asp Pro  
 Asn Gly Arg<sub>115</sub> Leu Ser Thr Val Gly<sub>120</sub> Gly Val Thr Lys<sub>125</sub> Asn Asn Lys  
 Thr Ser<sub>130</sub> Glu Thr Asn Thr Pro<sub>135</sub> Leu Phe Val Asn<sub>140</sub> Lys Val Asn Gly Glu  
 Asp<sub>145</sub> Leu Asp Ala Ser Ile<sub>150</sub> Asp Ser Phe Leu Ile<sub>155</sub> Gln Lys Glu Glu Ile<sub>160</sub>  
 Ser Leu Lys Glu Leu<sub>165</sub> Asp Phe Lys Ile Arg<sub>170</sub> Gln Gln Leu Val Asn<sub>175</sub> Asn  
 Tyr Gly Leu Tyr<sub>180</sub> Lys Gly Thr Ser Lys<sub>185</sub> Tyr Gly Lys Ile Ile<sub>190</sub> Ile Asn  
 Leu Lys Asp<sub>195</sub> Glu Asn Lys Val Glu<sub>200</sub> Ile Asp Leu Gly Asp<sub>205</sub> Lys Leu Gln  
 Phe Glu<sub>210</sub> Arg Met Gly Asp Val<sub>215</sub> Leu Asn Ser Lys Asp<sub>220</sub> Ile Arg Gly Ile  
 Ser Val Thr Ile Asn Gln Ile<sub>225</sub> <sub>230</sub>

&lt;210&gt; 3

&lt;211&gt; 231

&lt;212&gt; PRT

&lt;213&gt; Staphylococcus aureus subsp. aureus N315

&lt;400&gt; 3

Met Lys Leu Lys Thr Leu Ala Lys Ala Thr Leu Ala Leu Gly Leu Leu  
 1 5 10 15  
 Thr Thr Gly Val Ile Thr Ser Glu Gly Gln Ala Val His Ala Lys Glu  
 20 25 30  
 Lys Gln Glu Arg Val Gln His Leu Tyr Asp Ile Lys Asp Leu Tyr Arg  
 35 40 45  
 Tyr Tyr Ser Ser Glu Ser Phe Glu Phe Ser Asn Ile Ser Gly Lys Val  
 50 55 60

## Untitled.ST25

Glu Asn Tyr Asn Gly Ser Asn Val Val Arg Phe Asn Gln Glu Lys Gln  
65 70 75 80

Asn His Gln Leu Phe Leu Leu Gly Lys Asp Lys Asp Lys Tyr Lys Lys  
85 90 95

Gly Leu Glu Gly Gln Asn Val Phe Val Val Lys Glu Leu Ile Asp Pro  
100 105 110

Asn Gly Arg Leu Ser Thr Val Gly Gly Val Thr Lys Lys Asn Asn Lys  
115 120 125

Ser Ser Glu Thr Asn Thr His Leu Phe Val Asn Lys Val Tyr Gly Gly  
130 135 140

Asn Leu Asp Ala Ser Ile Asp Ser Phe Leu Ile Asn Lys Glu Glu Val  
145 150 155 160

Ser Leu Lys Glu Leu Asp Phe Lys Ile Arg Lys Gln Leu Val Glu Lys  
165 170 175

Tyr Gly Leu Tyr Lys Gly Thr Thr Lys Tyr Gly Lys Ile Thr Ile Asn  
180 185 190

Leu Lys Asp Glu Lys Lys Glu Val Ile Asp Leu Gly Asp Lys Leu Gln  
195 200 205

Phe Glu Arg Met Gly Asp Val Leu Asn Ser Lys Asp Ile Gln Asn Ile  
210 215 220

Ala Val Thr Ile Asn Gln Ile  
225 230

<210> 4

<211> 231

<212> PRT

<213> staphylococcus aureus subsp. aureus Mu50

<400> 4

Met Lys Leu Lys Thr Leu Ala Lys Ala Thr Leu Ala Leu Gly Leu Leu  
1 5 10 15

Thr Thr Gly Val Ile Thr Ser Glu Gly Gln Ala Val His Ala Lys Glu  
20 25 30

Lys Gln Glu Arg Val Gln His Leu Tyr Asp Ile Lys Asp Leu Tyr Arg  
35 40 45

## Untitled.ST25

Tyr Tyr Ser Ser Glu Ser Phe Glu Phe Ser Asn Ile Ser Gly Lys Val  
 50 55 60  
 Glu Asn Tyr Asn Gly Ser Asn Val Val Arg Phe Asn Gln Glu Lys Gln  
 65 70 75 80  
 Asn His Gln Leu Phe Leu Leu Gly Lys Asp Lys Asp Lys Tyr Lys Lys  
 85 90 95  
 Gly Leu Glu Gly Gln Asn Val Phe Val Val Lys Glu Leu Ile Asp Pro  
 100 105 110  
 Asn Gly Arg Leu Ser Thr Val Gly Gly Val Thr Lys Lys Asn Asn Lys  
 115 120 125  
 Ser Ser Glu Thr Asn Thr His Leu Phe Val Asn Lys Val Tyr Gly Gly  
 130 135 140  
 Asn Leu Asp Ala Ser Ile Asp Ser Phe Leu Ile Asn Lys Glu Glu Val  
 145 150 155 160  
 Ser Leu Lys Glu Leu Asp Phe Lys Ile Arg Lys Gln Leu Val Glu Lys  
 165 170 175  
 Tyr Gly Leu Tyr Lys Gly Thr Thr Lys Tyr Gly Lys Ile Thr Ile Asn  
 180 185 190  
 Leu Lys Asp Glu Lys Lys Glu Val Ile Asp Leu Gly Asp Lys Leu Gln  
 195 200 205  
 Phe Glu Arg Met Gly Asp Val Leu Asn Ser Lys Asp Ile Gln Asn Ile  
 210 215 220  
 Ala Val Thr Ile Asn Gln Ile  
 225 230

&lt;210&gt; 5

&lt;211&gt; 231

&lt;212&gt; PRT

&lt;213&gt; staphylococcus aureus subsp. aureus MW2

&lt;400&gt; 5

Met Lys Leu Lys Thr Leu Ala Lys Ala Thr Leu Ala Leu Gly Leu Leu  
 1 5 10 15  
 Thr Thr Gly Val Ile Thr Ser Glu Gly Gln Ala Val Gln Ala Lys Glu  
 20 25 30

## Untitled.ST25

Lys Gln Glu Arg Val Gln His Leu Tyr Asp Ile Lys Asp Leu His Arg  
 35 40 45

Tyr Tyr Ser Ser Glu Ser Phe Glu Phe Ser Asn Ile Ser Gly Lys Val  
 50 55 60

Glu Asn Tyr Asn Gly Ser Asn Val Val Arg Phe Asn Gln Glu Asn Gln  
 65 70 75 80

Asn His Gln Leu Phe Leu Ser Gly Lys Asp Lys Asp Lys Tyr Lys Glu  
 85 90 95

Gly Leu Glu Gly Gln Asn Val Phe Val Val Lys Glu Leu Ile Asp Pro  
 100 105 110

Asn Gly Arg Leu Ser Thr Val Gly Gly Val Thr Lys Lys Asn Asn Gln  
 115 120 125

Ser Ser Glu Thr Asn Thr Pro Leu Phe Ile Lys Lys Val Tyr Gly Gly  
 130 135 140

Asn Leu Asp Ala Ser Ile Glu Ser Phe Leu Ile Asn Lys Glu Glu Val  
 145 150 155 160

Ser Leu Lys Glu Leu Asp Phe Lys Ile Arg Gln His Leu Val Lys Asn  
 165 170 175

Tyr Gly Leu Tyr Lys Gly Thr Thr Lys Tyr Gly Lys Ile Thr Phe Asn  
 180 185 190

Leu Lys Asp Gly Glu Lys Gln Glu Ile Asp Leu Gly Asp Lys Leu Gln  
 195 200 205

Phe Glu His Met Gly Asp Val Leu Asn Ser Lys Asp Ile Gln Asn Ile  
 210 215 220

Ala Val Thr Ile Asn Gln Ile  
 225 230

<210> 6

<211> 201

<212> PRT

<213> S.aureus

<400> 6

Lys Glu Lys Gln Glu Arg Val Gln His Leu Tyr Asp Ile Lys Asp Leu  
 1 5 10 15

## Untitled.ST25

His Arg Tyr Tyr Ser Ser Glu Ser Phe Asp Phe Ser Asn Ile Ser Gly  
                   20                  25                  30  
 Lys Val Glu Asn Tyr Asn Gly Ser Asn Val Val Arg Phe Asn Gln Asp  
                   35                  40                  45  
 Gly Gln Asn His Gln Leu Phe Leu Leu Gly Glu Asp Lys Ala Lys Tyr  
                   50                  55                  60  
 Lys Gln Gly Leu Glu Gly Gln Asn Val Phe Val Val Lys Glu Leu Ile  
                   65                  70                  75                  80  
 Asp Pro Asn Gly Arg Leu Ser Thr Val Gly Gly Val Thr Lys Lys Asn  
                   85                  90                  95  
 Asn Gln Ser Ser Glu Thr Asn Thr Pro Leu Phe Val Lys Lys Val Tyr  
                   100                  105                  110  
 Gly Gly Asn Leu Asp Ala Ser Ile Glu Ser Phe Ser Ile Asn Lys Glu  
                   115                  120                  125  
 Glu Val Ser Leu Lys Glu Leu Asp Phe Lys Ile Arg Gln His Leu Val  
                   130                  135                  140  
 Lys Asn Tyr Gly Leu Tyr Lys Gly Thr Thr Lys Tyr Gly Lys Ile Thr  
                   145                  150                  155                  160  
 Phe Asn Leu Lys Asp Gly Glu Lys Lys Glu Ile Asp Leu Gly Asp Lys  
                   165                  170                  175  
 Leu Gln Phe Glu His Met Gly Asp Val Leu Asn Ser Lys Asp Ile Gln  
                   180                  185                  190  
 Asn Ile Ala Val Thr Leu Lys Gln Ile  
                   195                  200

&lt;210&gt; 7

&lt;211&gt; 201

&lt;212&gt; PRT

&lt;213&gt; S.aureus

&lt;400&gt; 7

Lys Glu Lys Gln Glu Arg Val Gln His Leu Tyr Asp Ile Lys Asp Leu  
   1                  5                  10                  15  
 His Arg Tyr Tyr Ser Ser Glu Ser Phe Glu Phe Ser Asn Ile Ser Gly  
                   20                  25                  30

## Untitled.ST25

Lys Val Glu Asn Tyr Asn Gly Ser Asn Val Val Arg Phe Asn Gln Glu  
 35 40 45  
 Lys Gln Asn His Gln Leu Phe Leu Leu Gly Glu Asp Lys Ala Lys Tyr  
 50 55 60  
 Lys Gln Gly Leu Gln Gly Gln Asp Val Phe Val Val Lys Glu Leu Ile  
 65 70 75 80  
 Asp Pro Asn Gly Arg Leu Ser Thr Val Gly Gly Val Thr Lys Lys Asn  
 85 90 95  
 Asn Gln Ser Ser Glu Thr Asn Ile His Leu Leu Val Asn Lys Leu Asp  
 100 105 110  
 Gly Gly Asn Leu Asp Ala Thr Asn Asp Ser Phe Leu Ile Asn Lys Glu  
 115 120 125  
 Glu Val Ser Leu Lys Glu Leu Asp Phe Lys Ile Arg Lys Gln Leu Val  
 130 135 140  
 Glu Lys Tyr Gly Leu Tyr Gln Gly Thr Ser Lys Tyr Gly Lys Ile Thr  
 145 150 155 160  
 Ile Ile Leu Asn Gly Gly Lys Lys Gln Glu Ile Asp Leu Gly Asp Lys  
 165 170 175  
 Leu Gln Phe Glu Arg Met Gly Asp Val Leu Asn Ser Lys Asp Ile Asn  
 180 185 190  
 Lys Ile Glu Val Thr Leu Lys Gln Ile  
 195 200

&lt;210&gt; 8

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; Staphylococcus aureus subsp. aureus NCTC6571

<400> 8  
 atgaaattaa aaacgtagc taaagcaaca ttagcattag gtttattaac tactggtgtc 60  
 attacatcag aagggtcaagc agttcaagcg gcagaaaaac aagagagagt acaacattta 120  
 catgatatta gagatttaca tcgatactac tcatcagaaa gtttcgaata tagtaatgtt 180  
 agtggttaagg ttgaaaacta caatggttct aacgttgtac gctttaaccc aaaagatcaa 240  
 aatcaccaat tattcttatt agggaaaagat aaagaacaat ataaagaagg tctacaaggc 300  
 caaatgtct ttgtagtaca agaattaatt gatccaaacg gcagactatc tactgttggt 360



## Untitled.ST25

```

ggtgtaacga agaaaaacaa caaaacttct gaaactaata cacctttatt tgттаатааа 420
gttaatggtg aagatttaga tgcатcaatt gactcatttt таатссаааа агаагааатс 480
tcattaaaag agcttgattt caaaattaga caacaattag tтаатаатта сggattatat 540
aaaggtagat cтааатасgg таааатсатт атсаатттга аагасgаааа таааgтагаа 600
attgatttag gtgataaatt асааттсgаg сgcatgggсg atgtgttgaa tagтаааgас 660
attagaggta tatcagtcac таттаассаа атттaa 696

```

&lt;210&gt; 9

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; Staphylococcus aureus subsp. aureus N315

```

<400> 9
atgaaattaa aaacgtagc таааgсааса ttggcattag gcttattaa tactggtgtg 60
attacatcag aaggccaagc агтссacгса аааgааааgс ааgаgаgаgt асаасатттa 120
tatgatatta aagacttata tcgatactac тсатсagааа gttttgaatt cagтаататт 180
agtggtaagg ttgaaaacta таасggттct аасgtttgtac gctttaacca agaaaaacaa 240
aatcaccaat таттсттатт агgааааgаt аааgатааат атаааааagg сттгаaggс 300
cagaatgtct ttgtggtaaa агааттаатт gатссааасg gtagactatc tactgttggt 360
ggtgtgacta agaaaaataa сааатсттct gaaactaata cacatttatt tgттаатааа 420
gtgtatggcg gaaatttaga tgcатcaatt gactcatttt тааттаатаа агаагаagtт 480
tсactgaaag аacttgattt caaaattaga ааgсаатtag ttgaaaaata tggtttatat 540
aaaggtagat cтааатасgg тааgатсact атсаатттга аагасgагаа ааaggаagта 600
attgatttag gtgataaact gсааттсgаg сgcatgggtg atgtgttgaa tagтаaggаt 660
attcaaaata tagcagtgac таттаатсаа атттaa 696

```

&lt;210&gt; 10

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; Staphylococcus aureus subsp. aureus Mu50

```

<400> 10
atgaaattaa aaacgtagc таааgсааса ttggcattag gcttattaa tactggtgtg 60
attacatcag aaggccaagc агтссacгса аааgааааgс ааgаgаgаgt асаасатттa 120
tatgatatta aagacttata tcgatactac тсатсagааа gttttgaatt cagтаататт 180
agtggtaagg ttgaaaacta таасggттct аасgtttgtac gctttaacca agaaaaacaa 240

```

## Untitled.ST25

```

aatcaccaat tattcttatt aggaaaagat aaagataaat ataaaaaagg ccttgaaggc 300
cagaatgtct ttgtggtaaa agaattaatt gatccaaacg gtagactatc tactgttggt 360
gggtgtgacta agaaaaataa caaatcttct gaaactaata cacatttatt tgtaataaaa 420
gtgtatggcg gaaatttaga tgcatacaatt gactcatttt taattaataa agaagaagtt 480
tcactgaaag aacttgattt caaaattaga aagcaattag ttgaaaaata tggtttatat 540
aaaggtacga ctaaatacgg taagatcact atcaatttga aagacgagaa aaaggaagta 600
attgatttag gtgataaact gcaattcgag cgcattgggtg atgtgttgaa tagtaaggat 660
attcaaaata tagcagtgac tattaatcaa atttaa 696

```

&lt;210&gt; 11

&lt;211&gt; 696

&lt;212&gt; DNA

<213> *Staphylococcus aureus* subsp. *aureus* MW2

```

<400> 11
gtgaaattaa aaacgttagc taaagcaaca ttggcattag gcttattaac tactggtgtg 60
attacatcag aaggccaagc agtgcaagca aaagaaaagc aagagagagt acaacattta 120
tatgatatta aagacttaca tcgatactac tcatcagaaa gttttgaatt cagtaatatt 180
agtggttaagg ttgaaaatta taacggttct aacgttgtac gctttaacca agaaaatcaa 240
aatcaccaat tattcttattc aggaaaagat aaagataaat ataaagaagg ccttgaaggc 300
cagaatgtct ttgtggtaaa agaattaatt gatccaaacg gtagactatc tactgttggt 360
gggtgaacga agaaaaataa ccaatcttct gaaactaata cacctttatt tataaaaaaa 420
gtgtatggcg gaaatttaga tgcatacaatt gaatcatttt taattaataa agaagaagtt 480
tcactgaaag aacttgattt caaaattaga caacatttag ttaaaaatta tggtttatat 540
aaaggtacga ctaaatacgg taagatcact ttcaatttga aagatggaga aaagcaagaa 600
attgatttag gtgataaatt gcaattcgag cacatggggtg atgtgttgaa tagtaaggat 660
attcaaaata tagcagtgac tattaatcaa atttaa 696

```

&lt;210&gt; 12

&lt;211&gt; 606

&lt;212&gt; DNA

<213> *S. aureus*

```

<400> 12
aaagaaaaac aggaacgtgt tcagcacctg tacgacatca aagacctgca ccgttactac 60
tcctccgaat ctttcgaatt ctccaacatc tccggtaaag ttgaaaacta caacgggtcc 120

```

## Untitled.ST25

aacggttggtc gtttcaacca ggaaaaacag aaccaccagc tggttcctgct ggggtgaagac	180
aaagctaaat acaaacaggg tctgcagggg caggacgttt tcggttgtaa agaactgatc	240
gacccgaacg gtcgtctgtc caccgttggt ggtgttacca aaaaaaaca ccagtcctcc	300
gaaaccaaca tccacctgct ggtaacaaa ctggacggtg gtaacctgga cgctaccaac	360
gactccttcc tgatcaaca agaagaagtt tccctgaaag aactggactt caaaatccgt	420
aaacagctgg ttgaaaaata cggctctgtac cagggtagct ccaaatacgg taaaatcacc	480
atcatcctga acggtggtaa aaaacaggaa atcgacctgg gtgacaaact gcagttcgaa	540
cgtatgggtg acgttctgaa ctccaaagac atcaacaaaa tcgaagttac cctgaaacag	600
atctaa	606

&lt;210&gt; 13

&lt;211&gt; 606

&lt;212&gt; DNA

&lt;213&gt; S.aureus

<400> 13	
aaagaaaaac aggaacgtgt tcagcacctg tacgacatca aagacctgca ccgttactac	60
tcctccgaat ccttcgaatt ctccaacatc tccggtaaag ttgaaaacta caacggttcc	120
aacggttggtc gtttcaacca ggaaaaacag aaccaccagc tggttcctgct ggggtgaagac	180
aaagctaaat acaaacaggg tctgcagggg caggacgttt tcggttgtaa agaactgatc	240
gacccgaacg gtcgtctgtc caccgttggt ggtgttacca aaaaaaaca ccagtcctcc	300
gaaaccaaca tccacctgct ggtaacaaa ctggacggtg gtaacctgga cgctaccaac	360
gactccttcc tgatcaaca agaagaagtt tccctgaaag aactggactt caaaatccgt	420
aaacagctgg ttgaaaaata cggctctgtac cagggtagct ccaaatacgg taaaatcacc	480
atcatcctga acggtggtaa aaaacaggaa atcgacctgg gtgacaaact gcagttcgaa	540
cgtatgggtg acgttctgaa ctccaaagac atcaacaaaa tcgaagttac cctgaaacag	600
atctaa	606